CHAPTER 1

SITE CLEARANCE (CLEARING AND GRUBBING)

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1.1 Scope

This work shall consist of cutting, removing and disposing of all materials such as trees, bushes, shrubs, stumps, roots, grass, weeds, top organic soil not exceeding 150 mm in thickness, rubbish etc., from the area of works which in the opinion of the Engineer are unsuitable for incorporation in the works, and such areas as may be specified on the drawings or by the Engineer. It shall include necessary excavation, backfilling of pits resulting from uprooting of trees and stumps to required compaction, handling, salvaging, and disposal of cleared materials. Clearing and grubbing shall be performed in advance of earthwork operations and in accordance with the requirements of these specifications.

1.2 Preservation of Property/Amenities

Trees, shrubs, any other plants, pole lines, fences, signs, monuments, buildings, pipelines, sewers and all facilities within or adjacent to the site which are not to be disturbed shall be protected from injury or damage. The Contractor shall provide and install at his own expense, suitable safeguards approved by the Engineer for this purpose.

During clearing and grubbing, the Contractor shall take all necessary precautions to prevent soil erosion, water pollution, and other environmental impacts, and where required, undertake additional works to mitigate these effects, as specified in the relevant Clauses of Chapter 3. Before the start of operations, the Contractor shall submit to the Engineer for approval his work plan, including the procedure to be followed for disposal of waste materials, etc., and the schedules for carrying out temporary and permanent erosion control works as stipulated in Chapter 3.

1.3 Methods, Tools and Equipment

Only such methods, tools and equipment as are approved by the Engineer and which will not affect the property to be preserved shall be adopted for the Work. If the area has thick vegetation / roots / trees, a crawler or pneumatic-tyred dozer of adequate capacity may be used for clearance purposes. The dozer shall have ripper attachments for removal of tree stumps. All trees,

stumps, etc., falling within excavation and fill lines shall be cut to such depth below ground level that in no case these fall within 500 mm of the subgrade / foundation / bed level. Also, all vegetation such as roots, under-growths, grass and other deleterious matter unsuitable for incorporation in the Work shall be removed between fill lines to the satisfaction of the Engineer. On the areas beyond these limits, trees and stumps required to be removed as directed by the Engineer shall be cut down to 1 m below ground level so that these do not present any unsightly appearance.
All branches of trees extending above the roadway shall be trimmed as directed by the Engineer.

All excavations below the general ground level resulting from the removal of trees, stumps, etc., shall be filled with suitable material and compacted thoroughly to ensure the surface at these points conforms to the surrounding area.
Ant-hills both above and below ground, which are liable to collapse and obstruct free subsoil water flow, shall be removed. Their workings, which may extend several meters, shall be suitably treated.

1.4 Disposal of Materials

All materials arising from clearing and grubbing operations shall be the property of Employer and shall be disposed of by the Contractor as directed by the Engineer.

Trunks and stumps of trees shall be cleaned of limbs and roots and stacked. Also boulders, stones and other materials usable in construction shall be neatly stacked as directed by the Engineer. Stacking stumps, boulders, stones etc., shall be done at specified spots with all lifts and lead.

All products of clearing and grubbing which, in the opinion of the Engineer, cannot be used or auctioned shall be cleared away from the site in a manner as directed by the Engineer. Care shall be taken to see that unsuitable waste materials are disposed off in such a manner that there is no likelihood of these getting mixed up with the materials meant for construction.

1.5 Measurements for Payment

Clearing and grubbing shall be measured on area basis in terms of hectares. Clearing and grubbing of borrow areas shall be deemed to be a part of Works

preparatory to embankment construction and shall be deemed to have been included in the rates quoted for the embankment construction item and no separate payment shall be made for the same. Cutting of trees up to 300 mm in girth including removal of stumps and roots, and trimming of branches of trees extending above the roadway shall be considered incidental to the clearing and grubbing operations. Removal of stumps left over after trees have been cut by any other agency shall also be considered incidental to the clearing and grubbing operations.

Cutting, including removal of stumps and roots of trees of girth above 300 mm and backfilling to required compaction shall be measured in terms of number according to the sizes given below:

Above 300 mm to 600 mm;
Above 600 mm to 900 mm;
Above 900 mm to 1800 mm; and
Above 1800 mm.

For this purpose, the girth shall be measured at a height of 1 m above ground or at the top of the stump if the height of the stump is less than 1 m from the ground.

1.6 Rates

The Contract unit rates for the various items of clearing and grubbing shall be payment in full for carrying out the required operations, including full compensation for all labour, materials, tools, equipment, and incidentals necessary to complete the work. These will also include the removal of stumps of trees with a girth of less than 300 mm, as well as stumps left over after trees are cut by another agency. Additionally, this will involve excavation and backfilling to the required density, where necessary, and handling, salvaging, piling, and disposing of the cleared materials, including all lifts and leads.

The Contract unit rates for cutting (including removal of stumps and roots) of trees of girth above 300 mm shall include excavation and back-filling to required compaction, handling, salvaging, piling and disposing of the cleared materials with all lifts and lead.

Where a Contract does not include separate items of clearing and grubbing, the same shall be considered incidental to the earthwork items and the

Contract unit prices for the same shall be considered as including clearing and grubbing operations.